Introduction

This brief report provides the findings of an evaluation study of Animal Identification Notice 5-02, February 11, 2002, that restates the regulations in 9CFR 310.2 stressing the importance of animal identification (ID) in food biosecurity. The purpose of this study was to provide feedback on user's reaction to the Notice, gather data on current industry practices and recommend efforts to prevent bioterrorism, address industry concerns about how best to prevent foodborne illness in a cost-effective manner, and identify distribution issues and recommendations.

Methodology

A telephone survey of 42 IIC's from a sample of red meat slaughter plants was conducted. Questions included clarity of the Notice, description of current animal ID systems used with different species and plant sizes, types of information routinely maintained, and suggestions for alternatives to prescribed procedures. Findings include responses from 14 of 17 districts (excluding Alameda, Raleigh and Jackson) with representation from very small, small and large plants.

Key Findings & Recommendations on Notice Contents

Eighty percent of the respondents found the Notice to be clear and useful. It provided a good reminder, clarified issues, and was used to review animal identification with plants.

Twenty percent did not find it useful. They already knew the procedures. Notice was confusing about requirements; it just should have stated, "Read the regulations". In addition, they reported the Notice was not clear that regulations allow for alternative methods of animal identification to retaining tags.

The following recommendations address these findings:

- Emphasize reading the original regulation and state that a Notice does not replace a regulation.
    - Include a copy of the referenced regulation with the Notice as some IIC's do not have a readily accessible copy of the regulations.

Key Findings & Recommendations on Animal ID Practices

A variety of identification systems are in use. Very small plants have less formal systems since much of their slaughter is custom.

A significant percentage of animals have no identification. Systems used depend on information being kept by a variety of sources such as sales barns, feedlots, auction houses, shippers and producers that may not be complete. In addition, some plants report problems keeping ID with all parts of the carcass such as liver, heart and tail.

Tag and identification requirements differ significantly across states and North American nations (Canada, US

and Mexico) even though stock is often trucked across these lines.
Tags are not standardized. There are significant variations in the type of information and codes used.

Despite successful tracebacks in 21 of 42 plants, almost one-third of the IIC's surveyed have serious concerns about whether the systems in place would be adequate for bioterrorism or a serious outbreak of animal disease. Many IIC's desire a national uniform system of identification for all animals, "birth to death" necessary for a serious disease outbreak or terrorist attack.

The following recommendations address these findings.

- Require identification for all animals including sheep and goats.

- Facilitate a uniform system of identification. Develop guides for standard information to be included on tags or other forms of ID.

- Clarify roles in tracebacks for APHIS, FSIS, and the plant to retain farm origin information:
  - Who is responsible for ID?
  - Whom do tags belong to?
  - Who controls them?
  - Who is responsible for regulatory tasks?

- Support the following successful identification methods:
  - Use of electronic tracking and sharing of animal databases,
  - Use of bar code tags,
  - Use of chip or other implants,
  - Use of a passport system like the European system, that documents animal movement information from birth to slaughter,
  - Genetic traceback.

Recommendations to Address Bioterrorism Concerns

Respondents to this survey provided further suggestions to address concerns with bioterrorism. A possible resource to address these recommendations are Congressional funds currently appropriated for bioterrorism programs.

- Provide computer systems for small and very small slaughter plants. These computer systems could enable inspectors in slaughter plants to access agency information such as:
  - follow-up information on results of microbiological and chemical tests,
  - timely receipt of agency updates and issuances, and
  - links to agency online training.

- Combine these computer systems with scanners to develop electronic ID systems, saving considerable time and resources by replacing paper systems.

- Provide more training on identifying specific diseases such as foot and mouth and tuberculosis and how to determine a suspect animal.

- Provide more details on agroterrorism and what FSIS is looking for in biosecurity, the

background referred to in the notice.

- Develop and train an FSIS emergency response team to be available to help sterilize farms and plants in case of an animal disease or biosecurity incident.

- Study possible bioterrorism targets such as feedlots, farm water supply, farm spraying operations and specialized slaughter establishments such as kosher and hallal to recommend additional safety precautions.

Key Findings & Recommendations on Distribution of this Notice & Other Issuances

All received the Notice by mail, with one-quarter also reporting receiving the Notice by e-mail. Most prefer to continue to receive by mail with one-half also preferring e-mail. Some reported receiving issuances that were not relevant to their plants operations.

Some issues of timeliness remain – over 50% received their Notices over three weeks from the mailed date.

A large number of inspectors in slaughter plans do not have access to computers and therefore e-mail is not a solution at this point. No computer access also means they do not receive regulatory updates that are sent out over the Internet.

In addition, inspectors at some plants have no relief and so are unable to attend unit meetings or training to obtain updates.

The following recommendations address these findings:

- Target the mailing of issuances.

- Send notices to the home address of the IIC rather than the plant or district as is done with personnel mailings.

Clarity of Notice Sections

Section I. Most respondents found Section I, the Purpose of the Notice, to be clear. As an example, “Because it brought it to my attention and refreshed my memory. People like me get in a rut doing one thing and they need to check closer. You check the animal and don’t really pay attention to things like ID when looking for other problems. This reminded me to check for ID.”

However, almost one-third did not understand that the Notice allows for alternatives to tags. These IIC’s said, “The regulations made this clear but the Notice did not.” And “It should have listed the alternatives.”

One IIC’s comment reflects the views of others: “The present system needs improvement. The present system under the lot basis is not able to trace back to the farmer. There is also a big problem with missing tags. With the present biosecurity issues, the system really needs to be improved. Traceback to the farmer should be for all cattle.”

Sections 2,3&4. All IIC's surveyed said these sections were clear. Yet, six respondents who had requested information, reported problems getting voice mail messages returned, and conflicting interpretations. Others sought further information on animal diseases and hazards and whether to perform ante-mortem inspection on animals without identification.

Animal ID Practices

All IIC's reported some method of identification in their plants. There is considerable variation in the types of animal identification systems currently in use. As the following chart shows, tags were the most common followed by paper systems.

ID Systems Currently Used*

ID System	Number plants
Collecting Tags	29
Logbook/Invoices	15
Lots	8
Branding/Tattoos	7
Electronic	2
None	0

*Total equals more than 42 because some plants use more than one ID system.

The systems used vary in formality and complexity. Generally very small plants use a paper system with logbooks or invoices. With custom work, they know the farm from which the animal came.

Larger plants tend to have more formal systems. Some have several systems - a primary and a back up. One large plant, slaughtering 500,000 cows, heifers and steers a year has two primary systems – electronic bar code tags and lot tags for all animals and a secondary system of retaining all other tags in a manual file for all suspect animals until they are cleared.

FSIS inspectors also depend on auction houses and sales barns to keep complete records if traceback is needed. IIC's stated that the auction houses and sales barns do not always have complete records and they may not be forthcoming about those who repeatedly bring in animals without identification.

The IIC's surveyed identified a number of problems with existing systems.

Lots:

- Often animals are regrouped many times,
- It is difficult to accurately count every animal in the lot.

Tags:

- Requirements vary by state and country,
- Information on tags is not standardized,
- Tags fall off,
- Tags become dirty and may contaminate meat.

Tattoos or brands:

- Are not always read.

Electronic:

- Require computers and scanning equipment.

The result of these problems with existing systems is that not all animals have identification, even species such as cattle and hogs with well-defined market practices.

IIC's from large plants report more complete coverage. IIC's were less concerned if the plant only slaughtered local animals. However, even some small and very small plants report slaughtering animals trucked in from distant states or countries. IIC's from small and very small plants said that goats and sheep most often had no identification, with sheep having tags more often than goats because of the requirements of some states.

The following chart presents the ranges of estimates of species with identification provided by the IIC's in the sample.

IIC Estimates of Species with ID

Species(# plants reporting)	Percent with ID: estimated range
Cattle (24)	50%-100%
Bull/Stag (11)	50%-100%
Dairy Cow (16)	35%-100%
Heifer/Steer (16)	10%-100%
Mexican Cattle (4)	90-99%
Canadian Cattle (3)	50-100%
Hogs (14)	0-100%
Mature Sheep (14)	0-100%
Lamb (10)	0-95%
Goat (13)	0-100%
Other (Equine, Bison, Elk, Exotic) (5)	0-100%

IIC's also reported some problems with identifying swine. An IIC described hogs without identification that arrived when he was not on the premises and were put in with other animals.

Added an IIC, "With the system that is used, it is easy to trace back to the feedlot, but going back any further would be difficult. The industry has programs (incentive, premiums, etc,) that reward feedlots for quality cattle. Therefore their "lotting" is very important (and efficient) but they really have no need to trace individual animals back beyond feedlots."

This observation was confirmed by a representative of the American Meat Institute (AMI) in a presentation to FSIS in March 2002:
"It is important to note that many fed cattle have no ID tags when they arrive at the feedlot or even at the slaughter plant. The tags may have fallen off, or, if the cattle are branded, ear tags may never have been applied. It would be very difficult, if not impossible, to trace back all fed cattle to all of the production areas from which they came with the current system."

The systems in place have been successfully used in half of the plants surveyed for tracebacks, generally for residue or pathology such as brucelosis and tuberculosis violations, mostly for cattle, sometimes hogs and sheep.

However, almost one-third of the IIC's surveyed expressed concern that the systems in place would not be sufficient for a major outbreak. From selected IIC's, "Tracebacks are more important than regulatory turf. They require a three way relationship between FSIS, APHIS, and the plant."

The chart below provides a compilation of the information reported by the IIC's in the survey on the tags encountered in their plants. Their responses show differences in their recognition, understanding and interpretation of types, meanings and consistency of tags and codes used.

Tag Information Reported by IIC's

Type tag	Information	Species
Back tag	State numbers, auction or sale barn letters or numbers, ID numbers or letters, sometimes date	Cattle, Sheep, Goat
Producer tag	Numbers or letters of owner	Cattle, Sheep, Goat Lamb Bison
Feedlot tag	State, owner numbers, letters, or logo	Cattle
Canadian ear tag	Province, numbers or letters	Cattle
Calf vaccination ear tag	State – 3 letters with V, 4 digit ID number	Cattle
Blue Mexican ear tag	Number, locations, dates	Cattle
Brucelosis ear tag	State – 2 or 3 letters or digits, farmer number, ID numbers or letters	Cattle, Bison
Tubercu losis ear tag	Number, year, state	Cattle
Plastic owner ear tags	Owner name, farm, animal name, date of birth – sometime written with magic marker	Cattle, Sheep
Paper ear tag	For animals without other ID	Hogs

With non-standardized information IIC's may not be able to readily decode information on tags. For example, IIC's may know some state numbers but not all. These state numbers are not consistent: some have two digit state numbers, others three digits. IIC's report they are not sure what some numbers mean – in some cases they reported that the numbers had some meaning, such as farm or other locators while, in others, the numbers were just random individual or lot numbers.

The following IIC comment summarizes the issue; "There is quite a lot of variation among tags. Most states have different systems – e.g. New York requires brucelosis tags but doesn't require sales tag. In Pennsylvania, you can tell from the sales tag where the animal came from. It would help if there were some standard system for information, codes on tags. Some have two digit state tags, others three digit codes. In some cases, the sales code is the number of the auction house, and in others, it is just an ID number."

A representative of AMI confirmed that tags as they currently exist provide limited information about animal origin in his presentation to FSIS in March 2002:
"It is important to note that there is no standardization of tag nomenclature except for particular regulatory tags such as those associated with vaccination."

Faced with this variation, many IIC's suggested the development of a standard or consistent set of codes for tags.

Some inspectors were not clear about what to do with an animal with no identification – should they withhold inspection or not permit the animal to be slaughtered. In addition there were questions about the diseased or severed parts. An IIC reported two recent incidents of a plant mixing up carcass parts.

There is a further concern that the trucks used to transport the animals are not necessarily cleaned between loads and that truckers are not aware of requirements for animal identification.

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